

PRESENTATION FRETWORK DESIGN WITH THIS NUMBER.

Hobbies

• A. Weekly. • Journal. •

For Amateurs of Both Sexes.

No. 16. VOL. I.

FEBRUARY 1, 1896.

ONE PENNY.

Wood Carving for Amateurs.

Stamps Week by Week.

Photographic Notes and Hints.

Venetian Bent Iron Work.

How to make a Small Occasional Table
with Turned Legs and Rails.

Magic Lantern Slide Making.

Fretwork Notes.

Weekly Presentation Design.

Pigeons for Pleasure and Profit.

Cycling and Athletic News.

Prize Competitions, Correspondence, Etc.



CHAP. VIII.—ENRICHING FURNITURE—*Continued.*

FIGURE 16.

FIGURE 16 is a simple example of Carved work which could be used for various purposes, but is specially adapted for the frieze of some old piece of Oak furniture.

The pattern can be drawn out by anyone who knows how to use a ruler and a pair of compasses. The sketch will serve as a guide, but the actual proportion depends on the particular space to be filled. No cutting should be attempted until every line is accurately drawn. In Carving, the strap-work portion should be left untouched, as it is intended to be flush with the surrounding wood. When tracing the outline the Chisels

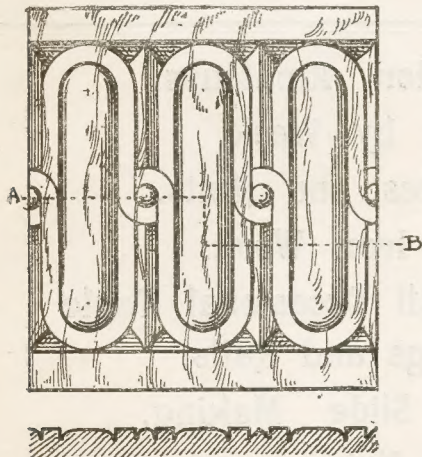


FIG. 16.

and Gouges should be held perpendicular, so as to give a straight up-and-down cut. If this part of the work is done carefully, the chief difficulty is over, as any modelling to be executed is quite simple. The wood inside the strap border should be kept fairly flat on the top (as indicated in the section), and gently rounded over into the "ditch."

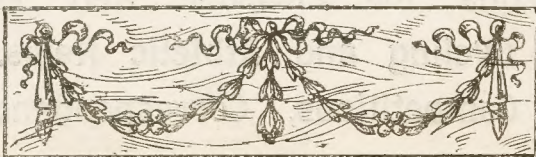


FIG. 17.

The little inner circles are treated in a similar manner. The intermediate pieces have an angular ridge, and slope down on either side. At top and bottom the background wood should be slightly cut away in a curved form, in order to let the ornament stand out in relief.

Although it has been said to keep the strap-work on the same level as the original surface, it must not be forgotten to carry out the idea of crossing and re-crossing. Where one part of the border passes under another, the wood should be faintly pared down, taking care to leave a sharp, clean edge. The cutting must be very gradual, so that no angles may be noticed. A mere gentle touch with a small flat tool will do the work, all that is required being the removal of that feeling of absolute flatness which the ornament would otherwise have.

Many varieties of this style of pattern may be found in Jacobean, Dutch, and in less modern French work; in a more severe form it is seen in some Louis XVI. articles of furniture.

FIGURE 17.

A much more advanced example of Carving for a frieze, or drawer front, is given in Fig. 17, and the detailed work cannot be described in this chapter. There is a considerable amount of grounding to do, as the ornament must stand out at least three-eighth inch in relief. The ribbons, too, must be slightly undercut, so as to have a wavy delicate appearance. Thus the work is by no means easy. Capital examples of husks and ribbons can usually be found on Adams' mantelpieces. When a good model is seen, it should be carefully studied, as an actual specimen affords far greater assistance than drawings or photographs.

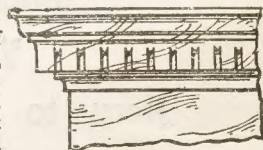


FIG. 18.

DENTILS.

Cornices and Cabinet tops which are supplied with a square moulding can be greatly improved by a row of dentils, as in Fig. 18.



FIG. 19.

to the spacing out and ruling; the Carving work itself is all done with a small sized Gouge.

LEGS.

Table and chair legs of almost any style could be ornamented with flutes, if desired. As a rule, eight flutes for a turned leg is a convenient number, the most suitable width (unless for a very heavy leg) being one-quarter or five-sixteenths inch. Square legs could have three flutes on each face. If the leg is tapered, the flutes must also get proportionately narrower; this naturally makes the work more difficult, and necessitates the expenditure of a little extra time. The heavy bulged mouldings on some turned legs might be relieved with nulls, or with simple leaves.

FIGURES 20 AND 21.

A favourite form of decoration for furniture is the "money" ornament (Fig. 20). It is chiefly used for pilasters, or for square legs, and does not give much difficulty. The idea, as may be seen, is that of a number of circles, or "coins," overlapping one another, and this point must be kept in mind during the operation of Carving. The



FIG. 20.

circles must not appear as if one was part of, or was growing out of its neighbour. Each must give a clear impression as of lying on the top of another. To take away the appearance of flatness, the surface of each coin should be gently hollowed. The edge should not be left sharp, but must be slightly chamfered; it should not be rounded, but kept angular.



FIG. 21.

Fig. 21 is a different form of the same ornament; it is more popular, though containing rather more work. The outline must be strongly marked, and the overlapping feeling retained as in the previous case.

REEDS.

In pilasters, reeds are occasionally substituted for flutes. (See Fig. 22). In outline their appearance is similar, but the work is very different, and is also more difficult. With flutes, hollow curves are Carved in the pilaster; with reeds, the flute forms are left, and the ground round about them cut away. In factories, reeds are usually run with a moulding machine; but in many cases they have to be hand Carved, and in placing them on any existing piece of furniture, they can only be done in this way. The Tools necessary are a Corner Firmer, a quickly curved Gouge, and a small Bent Back Tool for clearing out the spaces between the reeds. As with flutes, it is a case of keeping the lines straight, and every effort should be made to preserve a uniform depth throughout.

Elaborate and highly finished panels might be Carved on furniture, but examples need not be given here, as everything depends on the importance of the subject, the size of space to be filled in, and the style of ornament to be adopted. The instances given in this chapter are those which are in everyday use, and which might be attempted by any amateur who has had a little experience. It is almost needless to say that when anything more ambitious is tried, the style should be carefully considered. Jacobean mouldings will not suit a modern French Table, nor will Sheraton ornaments look well on a Dutch Cabinet. The *massing*, too, must be in proportion to the general weight of the article; thus, no delicate microscopic work need be put on a heavy Dining or Billiard Table, nor must bold ornament be applied to a lightly built Chair or Stool. All these points must be left to the amateur himself, as it is impossible to say what would be right or wrong for a mere imaginary article. No piece of furniture, which looks well as it is, should ever be touched; only when there is a strong impression that a certain bit of Carving would be a striking feature and a decided improvement should the attempt be made.

(To be continued).

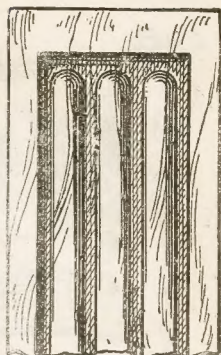


FIG. 22.

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STAMPS

Week by Week.

A Philatelic Causerie by PERCY C. BISHOP,

Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY;" Ex-Editor of "THE PHILATELIC JOURNAL" and "PHILATELIC REVIEW OF REVIEWS;" General Secretary of the LONDON PHILATELIC CLUB.

AL those readers who have written me *re* the projected "Hobbies" Philatelic Exhibition will please accept my best thanks for their kind wishes and suggestions, all of which are being carefully considered. It will be better, I think, to do this thing well than to do it in a hurry, so I withhold further particulars until such time as I am able to give the entire programme of what it is proposed to do.

Philately loses a staunch adherent by the death of the Earl of Kingston, which occurred on the 13th instant at Cairo. The Earl succeeded Mr. Philbrick, Q.C., as President of the London Philatelic Society, which post he held up to the time of his death. His Lordship was an enthusiastic and painstaking philatelist, greatly liked by all who met him.

One of my correspondents has adopted an idea which may commend itself to many others who happen to combine Philately and Photography as hobbies. The idea is, in seeking my advice about a stamp, to send me a photograph of same, the whole stamp being photographed on some dark background, so that the perforation is well shown up. In cases where collectors may be nervous about sending rare stamps through the post, this idea should prove very useful. It is a difficult job to probably describe a stamp in words, but to send a photograph is tantamount to sending the stamp itself.

—:O:—

THE PLATE NUMBERS OF ENGLISH STAMPS.

THE SIXPENNY—(Continued.)



Of plate 9 there is nothing to say. Plate 10 was never used, save for the printing of the usual registration sheets for the Somerset House Authorities.

In 1872 a new design was inaugurated, a portion of which is shown in the annexed engraving. The watermark remained unchanged.

Plate 11 appeared first in dark buff, afterwards light buff.

Plate 12 which first appeared in light buff (in which colour it is somewhat scarce) was afterwards produced in a grey green tint.

The year 1874 brought a further slight change of design, the large white letters in corners being replaced by large coloured letters.

Plate 13 exists both in light buff and in grey green. In the former colour it is one of the very rarest of English stamps; but the grey green variety (which is very often mistaken for buff by persons having an indifferent eye for colour) is worth only a few pence.

Plates 14, 15, 16, and 17, grey green, require scant notice, but it may be stated that the last named number is found with two watermarks—the spray of rose, and the large crown. The spray of rose variety is a moderately scarce stamp.

Plate 18 is found in grey green, and in lilac (surcharged "6d." in red)—both on paper watermarked "spray of rose."

—:O:—

NEW ISSUES OF STAMPS.

*. Items for this department will be gratefully received from any Philatelic readers who happen to receive early information of new issues, or of impending changes in the postal arrangements of any country.

ABYSSINIA is to have envelopes, cards, and unpaid-letter stamps.

ARGENTINE REPUBLIC.—I hear that the colours of the current stamps were changed at the commencement, and that the designs of the 16, 24, and 50c. stamps have been altered.

CYPRUS, it is said, will be given a change of stamps shortly.

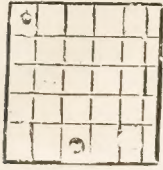
SWEDEN.—The 20 öre stamp is now appearing in a new shade—slate-blue to wit.

UNITED STATES.—Collectors who devote special attention to this country will have noticed many variations of shade in the current issue.

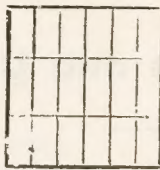
HINTS TO BEGINNERS.

VARIETIES OF PAPER (continued).

Quadrillé Paper is a variety that has been much used in the stamps of France and her colonies. The paper is water-marked with tiny squares or rectangles. Study the back of, say, a



■ SQUARE QUADRILLÉ.



■ RECTANGULAR QUADRILLÉ.

15 cent. French stamp of the current issue, and you will see an unmistakable sample of Quadrillé Paper.

Pelure Paper, used for some of the older British Colonial stamps, is a very thin paper much like tissue, but much harder and stronger.

Ribbed paper is easily detected by its roughness. It has a series of parallel lines like laid paper, but these lines are not in the paper, but stand up from it as if they were embossed. This is due to a peculiarity of manufacture.

Among the less important papers may be mentioned Manilla, which is used more for envelopes and wrappers than for adhesive stamps. Manilla paper is frequently smooth on one side and rough on the other.

I think the few rough notes I have given will enable every collector of ordinary alertness to classify the varieties of paper upon which his stamps are printed.

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Items of Interest.

THE VOCAL CORDS PHOTOGRAPHED.

The vocal cords in action have been photographed by Professor Hallock and Mr. Muckey, who have thus shown that the pitch of a note is raised by rotating the arytenoid cartilage without stretching the cords at all; much as a violinist makes high notes by shortening the string by the pressure of his finger.—*Science Siftings*.

THE DEAD SEA.

No other part of our earth, uncovered by water, sinks to 300 feet below the level of the ocean. But in the Dead Sea, says *Science Siftings*, we have a rift more than one hundred and sixty miles long, and from two to fifteen broad, which falls from the sea-level to as deep as 1,292 feet below it at the coast of the Dead Sea, while the bottom of the latter is 1,300 feet deeper still.

ARISTOCRATIC HOBBIES

The daughters of the Earl of Dunraven, the Ladies Aileen and Rachel Wyndham-Quin, like all modern women of fashion, have a hobby. It is the amateur culture of flowers, and their contributions to annual flower shows are notable. They take as much pride in their plants as Lord Dunraven does in his yachts. Last year Lady Rachel had the pleasure of producing an all-green flower. It was small but very compact, with pointed, ragged petals.

CROMWELLIAN RELICS.

Sir Richard Tangye, who started life as a clerk, and is head of the biggest engineering firm in the world, recently gave up his house near Birmingham and now resides at Putney. The chief feature of his beautiful house is its remarkable collection of relics relating to Cromwell and the Commonwealth period. This has been his hobby for several years, taking the place of a collection of Wedgwood ware which he presented to the Birmingham School of Art.—*Cassell's Saturday Journal*.

AN ARTIFICIAL HUMAN BODY.

Novelists have already made the public familiar with the idea of automations turned into living beings, and doctors have of late made many clever transfers of blood and flesh and skin. It appears that the work of making an artificial human body can be carried on by purely mechanical means. A process, says *Science Siftings*, has actually been patented in Germany for making a substitute for natural skin for use in wounds. The muscular coating of the intestines of animals is divested of mucous membrane and then treated in a pepsin solution until the muscular fibres are half digested. After a second treatment with tannin and gallic acid, a tissue is produced which can take the place of the natural skin, and which, when laid on the wound, is entirely absorbed during the healing process.

GENIUS VERSUS LAW.

Herbert Bernards, of Beaufort-road, South Tottenham, devised an ingenious system of constraining his poultry to provide him with a plentiful supply of eggs. He prepared plans of a beautiful hen run in his back-yard, which ended in an elaborate machine like a miniature treadmill. A hen from which Herbert deemed an egg to be due was put into the treadmill. If it paid its debt promptly the weight of the "new-laid" touched a spring, which at once liberated the bird to the enjoyment of the run. If it were lazy or negligent, it was forced to go up and down the treadmill until the egg was laid. Bernards had the design quite completed on paper, and the only difficulty was to find material to construct the machine. A quantity of wood had been stored near by to serve as the flooring of a number of new houses, and to the astonishment of the contractors the boards began to disappear mysteriously. At the same time Bernards' patent poultry-run gradually approached completion. But before the final touches were put to it the theft was discovered, and the poultry, who did not relish a prospective convict establishment in their midst, breathed freely. Their master has now gone to the treadmill in their stead.

How to Make

A SMALL OCCASIONAL TABLE

With Turned Legs and Rails.



THIS is an article which should please the wood-turning reader. Such a table combines a maximum amount of turning with a minimum amount of joiner work, and is quite within the range of an amateur. The writer has himself made the Table, so that he speaks from experience and not from

fancy; then get the stiles and square them up. The top binding stiles have a dovetail cut on each end, which fits into a corresponding hole cut in the top of the legs; this is really the only joint in the Table, and the detail is given in Fig. 2. The bottom stiles are not jointed in the technical sense, but a cylindrical lug is turned, half an inch long and the same in diameter, on the ends of the stiles, and these are let into $\frac{1}{2}$ -in. holes bored in a corresponding position in each leg. These holes should be cleanly bored with a Brace and Bit, at true right angles to the face of the work, so that the joint will not be "wobbly," as would be the case if they were bored carelessly. The position for these holes must be very accurately marked, or the work will look lopsided. We have found the best Bits of all to be Jennings's Double Spur Auger Bits, and cannot give them too much praise; they cut a keen, clean hole, no pressure is required to drive them, and consequently all one's attention can be given to boring the hole square and true.

a book. There is no great difficulty in the work, the skill required is very elementary, and, in reality, well-seasoned wood, good tools, patience, and perseverance, are the chief weapons with which to fight the battle.

One glance at the accompanying drawing will show that all the different pieces are turned, except the top and the four binding stiles. The writer used well-seasoned Ash for his Table, and left it merely white and varnished, but Mahogany or Walnut, or Beech stained to imitate Walnut, would suit admirably. The design and size are suited to almost any room, and the Table, when finished, should be found generally useful.

The size of the Table should be

24 inches long and 12 inches wide over the stiles, and the total height 28 inches. The legs are $1\frac{1}{2}$ inches square, and the cross rails $\frac{3}{4}$ inch. The stiles are $1\frac{1}{2}$ inch wide by $\frac{3}{4}$ inch deep; they are 4 inches apart, the spindles (not counting lugs) being therefore 4 inches long. The flat turned pieces in centre of frieze are 4 inches square and $\frac{3}{8}$ inch or $\frac{1}{2}$ inch thick.

The first thing to be done is to get the "makings" of the legs. Square them true (this may be done at the mill in a rough way if the worker is not apt with a Trying Plane), and scrape down with sand and glass paper. Turn the legs to the design in the drawings (see Fig. 2), or in any other style which the worker may

When the legs and stiles are fitted, the end cross rails must be placed in position, and then the long cross rail. Two long cross rails are shown in the illustration, but it will be quite sufficient to have only one, which would be joined at each end to the centres of the end rails. Then come the spindles; there are quite a number of these, and no doubt when the last one is done the turner will heave a sigh. To relieve the monotony of having so many spindles in a line, a square piece is turned on the face plate to a nice pattern on the flat, and let in between the top and bottom stiles; this helps the appearance. Before inserting the spindles into the stiles care must be taken to see that the holes are bored precisely opposite each other, and all to the same depth, as otherwise some would not stand quite upright, and the centres of some

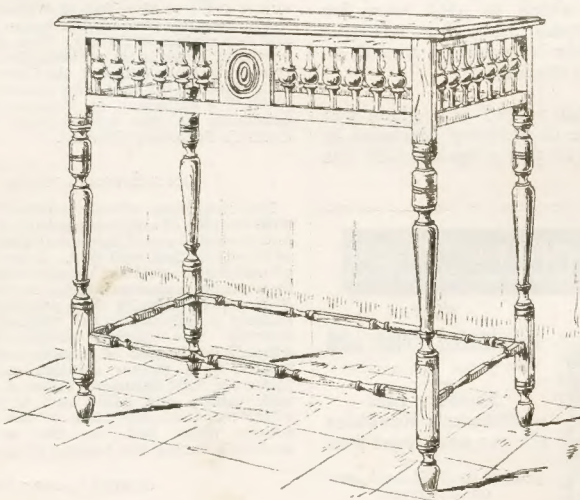


FIG. 1.—OCCASIONAL TABLE.

When the legs and stiles are fitted, the end cross rails must be placed in position, and then the long cross rail. Two long cross rails are shown in the illustration, but it will be quite sufficient to have only one, which would be joined at each end to the centres of the end rails. Then come the spindles; there are quite a number of these, and no doubt when the last one is done the turner will heave a sigh. To relieve the monotony of having so many spindles in a line, a square piece is turned on the face plate to a nice pattern on the flat, and let in between the top and bottom stiles; this helps the appearance. Before inserting the spindles into the stiles care must be taken to see that the holes are bored precisely opposite each other, and all to the same depth, as otherwise some would not stand quite upright, and the centres of some

FIG. 2.—Turned Leg.



would be out of the general level. A little patience will be required in getting the top stiles down on to the spindles and into the dovetailed holes while the glue is hot, but, not being allowed to exhibit any bad temper, the amateur must "grin and go through it." In driving home tenons it is usual

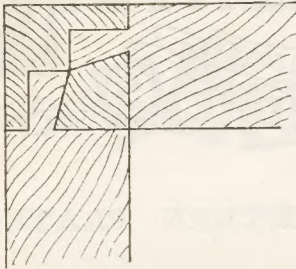


FIG. 3.—Binding Stile Joint.

to put a Saw cut on the very end, and insert a small wedge, which, when driven in, will close up the joint very tightly; but this is not necessary here, where the Table will not be used for supporting any great weight. The fox-tail, or dovetail, is quite sufficient to bind the whole together.

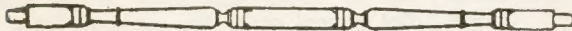


FIG. 4.—Long Cross Rail.

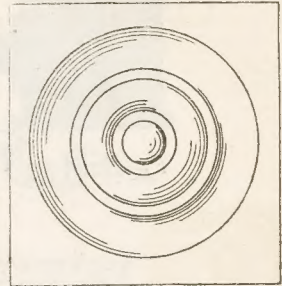


FIG. 7.—Flat Turned Plate in centre of Frieze.

wood will be found sufficiently heavy. The edges should not overlap more than an inch, as they would hide the spindles, which are a feature of the Table. On the edge of the top may be put a small moulding on the solid. "Stick" a moulding, is the technical expression when speaking, but it has the appearance in writing as if a moulding "stuck" on was nailed on. In putting on this moulding, the cross grain, or ends, should be done first, as, if not, the fibres of the wood might be liable to tear off. The top, when ready, should be perfectly flat, and must not be nailed to the stiles, but fixed to them on the under side with square plugs of wood well glued into the corner. When all has set, any superfluous glue may be removed from the joints, and, when dry, the whole may be given one coat of size and two of the best pale varnish, or the due amount of rubbing if the amateur prefers that method of finishing.

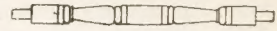


FIG. 5.—End Cross Rail.

Before glueing up, any pencil marks which have necessarily been made must be removed with a Plane or Scraper, as it is an impossibility to get at them when the affair is finally fitted. Avoid the use of sandpaper as much as possible, as it dulls the sharp, square edge left by the tool, while the Scraper does not.



FIG. 6. Spindle.

(Half Size)

The foxtail will require a little care in the fitting, but as it is the only joint, it may be done by someone else, and yet we can say that we made the Table. The ends should all be first cut on the stiles and carefully trimmed with a clean, sharp, bevel-edge Chisel ($\frac{3}{8}$ and $\frac{1}{2}$ inch are most useful sizes); the holes will then be marked with a very sharp pencil, and in cutting them care must be taken to leave the marks standing, so that a tight fit may be obtained.

In glueing up the concern it must be seen that the legs are square and upright, and that the top stiles form a rectangular figure. If they are inclined to be otherwise, a small strip of wood (just the right length) should be used as a diagonal stretcher, and left in until the glue is set, or, indeed, altogether if need be; but, by having all holes bored quite true and square, and opposite their respective lugs, this will be avoided.

The top must next be considered, and $\frac{1}{2}$ -inch

A word or two on the actual turning will not be out of place. The work is long and thin, and therefore liable to spring out of the centres, and to fly away from the tool in a very exasperating manner. There are tools sold to cure this; they are a kind of socket that holds a rest, having a notch for the wood to revolve in. For ourselves, we are content to put up with a "contrivance," which consists of a waste piece of wood, say a couple of inches wide, an inch thick, and about 10 or 12 inches long. On the edge near the top cut a right angle notch deep enough to grasp the piece being turned. This stay is held in position between the shears of the lathe by a wedge driven from the top and another from the bottom; the stay of course will be tapered if necessary. This will save purchasing a rest, and is quite as effective. In turning the spindles, make a measuring template to mark them off; see that they are all measured from the same end.



FIG. 8.

A. Shears of Lathe Bed.

B. Wedges.

C. Steadier.

D. Work to be turned.

Do not attempt two at a time as they give it too great a spring.

If the amateur cannot get on without having recourse to sandpaper, it will be well to take up a large handful of chips from under the lathe, and while the work is going round give it a good hard rub by way of polish; this is a great improvement.



PRINTING-OUT LANTERN PLATES.



READERS of *Hobbies* who have taken up Photography will know something about gelatino-chloride printing-out paper which is made and sold by several makers, notably "P. O. P." (Britannia Works Co.), "Solio" (Eastman Co.), and the "Printing-out paper" of the Paget Prize Plate Company.

In this article we are not concerned with Photographic Printing, but Lantern Slide Printing, and we shall presently show how easy of manipulation the Printing-out Lantern Plate is, and what pleasing results may be obtained with the same.

The Print-out Plate gives a picture in tone not unlike the best carbon work, and possesses good contrast and depth. The carbon process is somewhat spoilt by the "grain," which is quite absent in the plate now under review. The image can be toned with gold or platinum precisely in the same manner as the ordinary silver print. The colour is under complete control, the slides are made by contact, and can be handled and manipulated in subdued daylight without fear of fogging.

The method of using these plates is the simplest possible. The plate is placed in contact with a negative in an ordinary or special printing frame identical as that used for sensitised paper, and the subsequent operations we will now describe.

The printing frame should be placed in strong daylight, and even sunlight is with these plates permissible. The glass and the back of the negative should be carefully polished and all dust removed. The plate can be examined by opening the printing frame in the ordinary way, and looking through both negative and plate; the printing must be continued until a rich purple colour is obtained, and which must be distinctly visible in the high lights, and the most dense parts of the negative.

It is better to err in over-printing than under-printing, but practice will soon satisfy the operator as to when he has printed out the whole of the detailable negative.

When the printing is complete, the next operation is to tone and fix the Lantern. It is however possible, if time will not permit of this being done, to pass the Lantern Plate without cover, glass, or binding, into the carrier of the Lantern, and exhibit the slide. This course we do not recommend, and it should only be resorted to in cases of emergency. The colour prior to toning is a little raw, and the appearance of the unfinished slide harsh and wanting in gradation.

But to proceed to the toning and fixing: this may be accomplished either by the older or dual process, or by the combined fixing and toning bath, which, as the name implies, consists of one bath to cover both processes. The makers strongly advocate the former or separate system for their gelatino-chloride or "Printing-out" paper, but incline to the combined bath for the Lantern Plates, mainly because the film is thicker, and is on glass and not paper.

The following bath is recommended:—

No. 1. STOCK SOLUTION.

Hyposulphite of Soda	20 ozs.
Alum (potash alum)	5 "
Sodium Sulphate (not sulphite) ..	14 "
Water to	1 gal.

No. 2. STOCK SOLUTION.

Gold Chloride	15 grains.
Acetate of Lead	64 "
Water (distilled)	8 ozs.

To prepare No. 1, dissolve the Hypo and Alum each separately in about one quart of hot water. Mix, and then add the Sodium Sulphate, already dissolved, in sufficient hot water, making up the bulk to one gallon. This solution should be left for some hours so that any solid or foreign matter might be precipitated, after which the clear solution should be drawn off and filtered. It will then be ready for use and will keep for practically any period.

With the No. 2 solution the first operation is to dissolve the Acetate of Lead in the water, and add the gold. A heavy precipitate will be formed and the solution must be "well shaken before taken," or rather poured. The precipitate will redissolve when mixed with the No. 1 solution.

For use, take 8 ounces of the No. 1, and 1 ounce of the No. 2 solution.

Method of procedure:—The Print-out Plate must be placed in a *perfectly* clean dish, set aside for the purpose of "combined toning and fixing," and used for *nothing else*. A sufficient supply of the solution, as above, is now poured over the plate, much in the same manner as a developer, or the plate may be immersed. They must *not* be washed before being placed in the bath. The first action that sets up when the plates are placed in the bath is the turning of the "pretty purple" colour to a rather "ugly yellow." The bath must now be rocked gently, and the solution allowed to flow over the plate. It will be noticed that in the course of from 5 to 15 minutes the image on the plate will change colour from yellow to red, and red to purple. The bath reduces the density of the slide which makes it *necessary* to over-print. In the combined toning and fixing bath, which we have described, the fixing will be accomplished in the first 6 to 8 minutes, after that the bath is only operative as a "toner," and may be continued until the desired colour has been secured.

With the separate toning and fixing bath the method is different, and we will proceed to describe it. The plates, in this case, after they have been printed, must be thoroughly washed in several changes of water in order to eliminate all the free and soluble silver salts. The plates must not remain for any lengthened period in the water, but washed until such time as the water no longer has a milky appearance. Here again special dishes must be set aside for the work, and used for no other purpose. They must also be chemically clean; the least trace of Hypo will lead to failure, and the plates will be completely spoilt.

We will now give the formula for the sulphocyanide toning bath, which is a good toner and gives most satisfactory colour results.

TONING BATH.

Sulpho-cyanide of Ammonium	..	30 grains.
Gold Chloride	2½ "
Water	16 ounces.

In practice, this bath must be poured over the plates, and the dish gently rocked until the image has assumed by transmitted light the colour desired. The plate may be slightly washed after toning, and then placed in the fixing bath, made up in the following proportions: Hyposulphite of Soda 3 ounces, Water 1 pint. After toning and fixing, the slides should be carefully washed in running water for at least an hour, and then placed in a clean rack to dry.

It will be seen, after perusal of this article, that the simplest method is the combined toning and fixing bath. We have had practical experience of both methods, and consider the combined bath to give results equal to the other, and certainly more tedious process.

With the Print-out Lantern Plate the question of exposure is under complete control. The toning, or, as we would rather call it, the after process development of the plate is simplicity itself, and the fact that the slide is so quickly prepared and made ready for exhibition leads us to recommend the Print-out Lantern Plates to readers of *Hobbies*.

We had the opportunity of witnessing a very exhaustive demonstration of these plates when first they were introduced, and in order to freshen our memory and bring ourselves up-to-date, we have glanced through the very capital little manual, "Paget Lantern Plates," written by Mr. S. Herbert Fry, F.R.P.S., the perusal of which, as it treats of other lantern plates, we commend to our readers.

The Print-out Plate makes a most beautiful transparency, and those who are handy as carpenters might turn their attention to making a window screen with a border of such Lantern transparencies.

(To be continued.)

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BENT IRON WORK

CHAP. XV.—BRASS AND COPPER—*Conclusion.*

IN the course of these Chapters sufficient has been given in explanation and illustration to shew the amateur how much ornamental work he can do with simple strips of Ribbon Iron. There are many more articles which could have been named, such as small Taper Holders, Bell Pulls, Hand Screens, Card Receivers, etc.; or larger examples, such as Gong Stands, Newspaper Racks, Curtain Rods, Fender Stools, Fire Irons and Screens, Bird Cages, Music Stands, and numerous others; but all these must be left to the reader, and if he secures suitable framing, there is no great difficulty to be encountered otherwise. Here a word or two about Bent Brass and Copper must be said.

BRASS.

Strip Brass may be had in the same widths as Iron, and is about half as dear again. It can also be had in the sheet, and when used in this way should be as thin as possible.

Almost all the articles which have been described in these Chapters might be entirely of Brass, or the two metals could be mixed. If the reader will turn back to Chapter X., which deals with Grills, he will find several examples where a mixed treatment would look particularly well. In Fig. 83, for instance, the outer frame and the circles could be of Iron, while the interior C curves and the small rings could be formed of Brass. The intermediate ornaments could be of either metal, or a mixture of both. Fig. 86 would lend itself to similar treatment.

As a rule, it is unwise to mix the metals violently; that is, they should not merely be used alternately without any regard to the general form of the design.

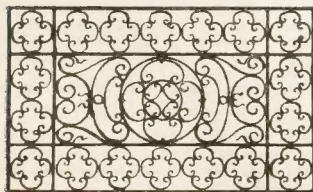


FIG. 128.

In Fig. 128 the border ornaments might be arranged with Brass and Iron work alternately, and a general mixture used for the centre panel; but the

result, although perhaps effective in one way, would be confusing, and there would be no feeling of repose in the work. In Fig. 129 an

idea is given of how much should be Brass work. Other arrangements might do equally well, and this is given simply to point out the rule which should be kept in mind. A complete mixture of the two materials gives a mere distribution of black and yellow; but an arrangement such as Fig. 129 lends balance to the Grill, and gives it almost a new form. If it

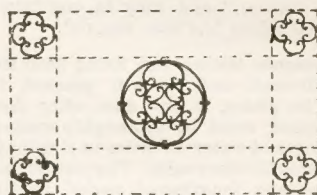


FIG. 129.

were desirable to add a little more brilliancy, the Collar Bands could all be made of Brass; and as they would therefore be more noticeable, they

would require to be bent and fitted on more carefully.

Brass should always be brightly burnished, this being done before the curves are clamped together. Articles which are made wholly of Bent Brass should be fitted with Brass Collar Bands.

COPPER.

Sheet and Strip Copper, when sold by the pound, is about twice the price of Iron. It is extremely pliable, and when used in the strip must be about one-sixteenth of an inch thick. For this reason Copper scroll work is less often used along with Ribbon Iron, and its chief duty is to provide ornamental leaves and rosettes. Iron and Copper and Brass and Copper look equally well. With the latter combination there is certainly less contrast; but an article of Brass scroll work, mounted with Copper foliage, has always a good appearance. With Iron, Copper looks better when the former is blackened; but if it be polished bright, like Steel, Brass is more suitable.

Brass and Copper foliage cannot be formed without a certain knowledge of Repoussé work, and as that is a completely different branch of Metal Art, the question cannot be gone into here. The different ways, however, in which Copper may be used to ornament such articles as have been described, may be pointed out. If a flower is wanted for some C curve, as Fig. 130, twist the spiral to a very tight end, place a rosette on each side, and



FIG. 130.

fix with a small Brass screw and nut. With some articles a flower is required on one side only.

Although Repoussé work must not be dealt with here, it may be allowable to give the diagram of a very simple rosette, which an amateur could easily form. Take the Sheet Copper and cut out a pattern such as Fig. 131, say about an inch and a half across; then cut out a smaller piece in the form indicated by the dotted lines. The petals of the outer disc should be slightly bent over, and those of the inner disc rather more so, as they are required



FIG. 131.

to partially hide the bolt head. This is a simple pattern, and gives little trouble. More elaborate flowers could be formed by having four or five layers of copper.

Leaves are useful in such a case as Fig. 132. The simplest form is the water-leaf, which should be cut as Fig. 133, and then beaten into shape.

Copper should always be thoroughly well cleaned with polishing paste when it is in the strip, and may afterwards be varnished; one of the difficulties in working with it is its liability to get soiled. When thoroughly polished it has a beautiful



FIG. 132.



FIG. 133.

mellow effect on Iron or Brass articles. Care should be taken not to cut or bruise the fingers when working with Brass and Copper, or a doctor's bill may be run up as well as the iron-monger's. If any acids require to be used take special care; do not rub the Brass strip over any articles of clothing immediately after it has been in contact with the chemical fluid. It is quite unnecessary to dwell on the results of any carelessness in this respect, but a single trial will shew why a word of warning is uttered.

In a concluding word, readers must be reminded that these instructions and directions are intended for amateurs only. Artisans who ply the hammer in a well-fitted workshop have every tool and requisite within reach, and encounter no inconvenience beyond the ordinary difficulties of the article they are engaged on. Amateurs, however, who possess neither forge nor anvil, and who have only a limited supply of tools and fittings, are placed at a great disadvantage when some special work has to be tried, and it is solely for them that these remarks are drawn up. As skill is gained, and as more advanced examples are attempted, the reader will gradually add to his set of materials till he can have a complete outfit. At the beginning it is a mistake to lay in too much stock, as it is only after a few trials that one understands what particular tools and materials suit best.

With regard to the actual work nothing further need be added. Books and sketches may lend hints, but they can never communicate

skill; that achievement rests entirely with the amateur himself. But in closing a word of advice may be given as to how skill may be attained:—never work carelessly, no matter how small or trivial the article engaged on may be; study the subject and the materials; watch the effect of each tool, and compare the result with those of various styles and sizes; note the quality of the strip metal, and when anything goes wrong with it, look for the direct or indirect cause; mark which joints hold fastest, and which are most suitable for different purposes. Lastly, study the Design, understand its character, and follow out its spirit; do not form curves or scrolls lamely, but give them a vigorous sweep and an elegant form. Nothing more can well be said, but if these general hints are accepted and adopted, the amateur may rest assured that he is, at least, on the right path.

* * Although we now conclude this series, we intend from time to time to devote some Chapters to special articles which can be made from Ribbon Iron.

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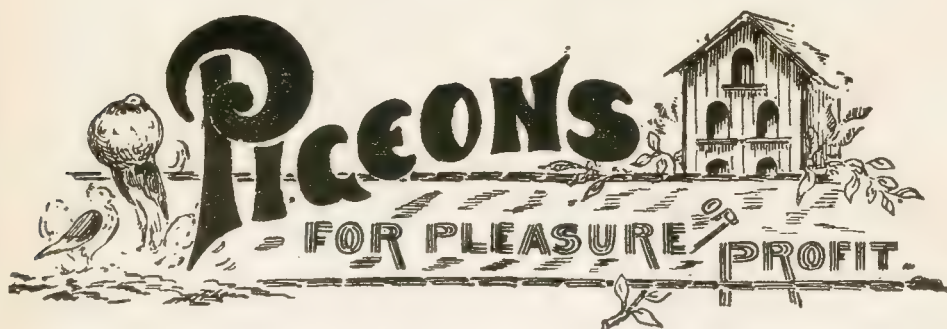
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CHAP. IV.—THE PIGEON HOUSE OR LOFT.

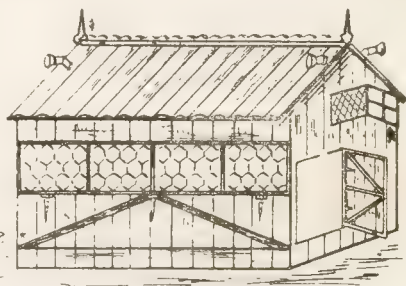


T may not be generally known that the Pigeon is an even more domestic bird than the larger feathered friends, the fowls, and will stand confinement well, providing, of course, that its home is made and fitted up to suit its requirements. These remarks apply especially to the Show Pigeons or fancy birds, which are seldom allowed a fly.

In considering the question of a House or Loft one cannot be too particular as to its location, and also the building of it. Not that unnecessary expense is advocated, but the writer desires the would-be Pigeon fancier to exercise a wise economy. Wood is cheap enough nowadays, and it is the idea or

design that is all-important. In the first place, the spot selected for the building should have a southerly aspect, and it is most important that there should be plenty of sun and fresh air. There should also be plenty of room; this costs but little more, and there is more probability of successful breeding. Some like a Lean-to House, but the designs we reproduce could be adapted for either a lean-to or a detached building. It should be remembered that Pigeons cannot exist in the damp or draughts, and to be a successful fancier it is useless to be "Penny wise and pound foolish." In Design No. 1 we represent an ideal Pigeon House, which would also be suitable for Rabbits or Poultry. This may be made at a small cost by anyone who can use a few tools, and has a fair idea of carpentering. It is advisable to make it in sections, so that it may be portable. The size will depend upon the space at command and the number of birds it is intended to keep. As to the wood, ordinary matchboarding of a good thickness will be most suitable. The floor should be raised about one foot from the ground, and should be well tongued, so that the House may be dry in any situation. For the roof most fanciers will approve of ordinary rafters covered with tiles, and lined *inside* with thin matchboard. It will be noticed that one portion of the front is on hinges, and may be opened for the day and safely closed at night. This does away with the necessity of an outside Loft, the opening of course being covered with large mesh wire; as also are the windows (which are placed at each

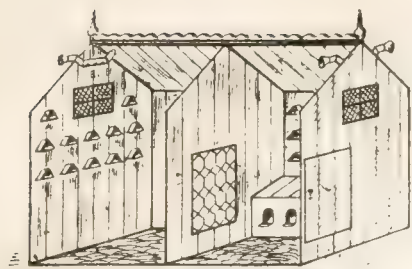
end) and the door of the inside partition, which is shewn in Design No. 2. The inside of the House should be well lime-washed, the wash having a good proportion of disinfectant fluid in it, and care should be taken to brush the wash well into the cracks to keep away vermin. The outside of the House should be painted with good lead paint.



Design No. 1.

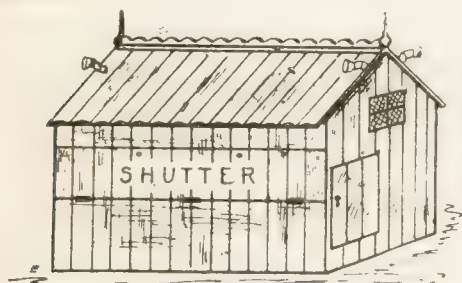
IDEAL PIGEON, RABBIT, OR POULTRY HOUSE.

It will be noticed that the inside is divided by a partition, a large wire door being provided in order that the youngsters may be kept apart from the other birds. The breeding boxes, which should also be thoroughly lime-washed, can be easily made, but many fanciers simply provide ordinary orange boxes, covering up a portion of the front so as to make the box snug and comfortable. These, being of little value, can be destroyed at the end of breeding season. As to the perches, there is a difference of opinion, but those shewn in our illustration are very useful, and should be made of three pieces of wood of triangular shape (or rather an angle of 45 degrees) nailed together, the back one having a hole in it to hang on a strong nail. The advantage of this is that the perch can be easily detached and thoroughly cleaned with a common scraper. Plenty of these perches should be provided, at about 10 inches apart, as the birds like to fly from one to the other. Here it should be insisted that cleanliness should be the watchword of the Pigeon fancier. The floor, as suggested in our second article, should be covered with sawdust and sand mixed. This will look very nice if kept clean, and will not only be a credit to its owner, but will keep the Pigeons healthy.



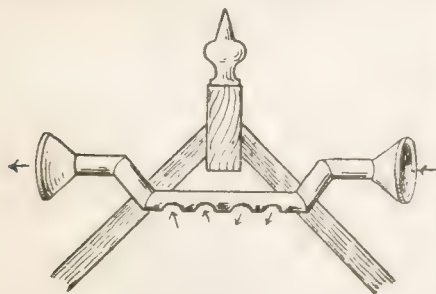
Youngsters. Breeding Part.
Design No. 2.

The next illustration shows the House closed up for the night. It will be noticed that the shutter padlocks on the *inside*, thus making all secure.



Design No. 3.

Ventilation is an exceedingly important matter. The ventilator shewn in the illustration is by far the best. It is made of zinc or thin iron, and may be purchased for a few shillings. It is called Captain Terry's Patent Portable Ventilator.



Design No. 4.

It can be applied to all wooden, iron, or other buildings. It may be fixed in a few minutes, being in three pieces, and whilst fresh air is entering, the close, foul air is always rising and finding its way out of the chamber, which is kept perfectly warm in the coldest weather, and free from any draught whatever.

The height of the building will, of course, depend upon its size, but eight feet is quite high enough in the clear, or centre; in fact, it is not advisable to go beyond this distance—some fanciers like six inches less, as there is then less difficulty in catching the birds; but, whatever the size or shape of the Pigeon Loft may be, the readers of *Hobbies* may be assured that it is nearly impossible to find a better arrangement than the one described.

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CHAP. XV.—VARNISHING.



IN these articles, and elsewhere in *Hobbies*, we have more than once taken the opportunity to discourage the reckless use of Varnish, but it would obviously be absurd to veto this well-tried medium altogether, and a few suggestions as to its application may here be given. For long, a coat of Varnish has been regarded as the proper method of finishing Fretwork articles. No amateur deemed his work complete and his duties over till the Varnish pot and brush had been laid back again on the shelf. Varnish was applied to everything, and coat after coat laid on until the surface of the wood shone like a mirror. Indeed, articles received such faithful attention in this respect that many of the smaller holes were completely re-filled with the greasy fluid.

Numerous Fretworkers, however, are now entertaining a strong dislike to such a sticky and altogether unsatisfactory mode of finish, and those who have not skill to French polish an article prefer to leave the wood plain.

No definite rule can be laid down as to what class of articles should be varnished. Small table ornaments, especially those which are cut from light coloured woods, are better untouched, but certainly many larger articles, such as bookshelves and other examples of occasional furniture, will have a somewhat crude appearance unless Polish or Varnish is applied. As so much depends on the method of application, the question can however only be half answered; the remaining considerations must be left to the taste of the Fretworker.

Various recipes might here be given for the home manufacture of Varnishes, but as these can be purchased at so small a cost there need be little hesitation in saying that the expenditure of time and trouble would hardly be compensated by the result, and the chances of securing a good result are not always certain. Thus we may safely counsel the reader to *buy* whatever Varnish he may require. When a paint store is patronised, care should be taken to mention for what purpose the Varnish is wanted, as it stands to reason that material which is applied wholesale to a door or dado may not be suitable for a delicately fretted ornament. On the whole it is better to purchase the Varnish direct from dealers in Fretwork goods, as there is then a fair certainty of getting exactly what is required.

Spirit Varnish dries very quickly—an advantage and a disadvantage. For small ornaments with flat surfaces it is very useful, but for larger articles where numerous edges have to be touched it should never be employed, as the rapid evaporation would leave a hard and noticeable ridge near the edge. If the whole work can be performed in a few minutes, Spirit Varnish is preferable, but if the surface of the ornament cannot be taken up at the same time as the edge, a less quickly drying medium must be chosen.

Before any Varnishing is attempted the article must be thoroughly smoothed with glasspaper. If the wood be of an open grain it is advisable to give it a preliminary coat of size. This consists of thin glue and water. When dry, another rub with glasspaper will be necessary. Fretworkers are usually told to take a soft camel's hair brush when varnishing, but a very soft tool is objectionable, as it has little elasticity and gathers too much fluid. A moderately soft hog-hair brush is the kind which the writer prefers; it has a good spring, and yet is not hard enough to "streak" the work.

The edges of an article should be dealt with first, and this is the most tedious process. We all know what it is to get at those edges! turning the article upside down, poking in the brush wherever it will go, messing our fingers, spoiling work already done, and all the time being oppressed by the sickening odour of the Varnish. To hurry over this part of the work there is a great tendency to take too much Varnish on the brush, with the result that it gathers up in some corner and gives a clumsy appearance. Such carelessness must be guarded against, as it is really the secret to the now widespread objection to Varnish. Care must also be taken not to let much surplus Varnish gather on the flat surface while the edges are being touched, as it would leave a mark when the brush were again drawn over it. Before the surface is touched, the newly varnished edges should all be examined and any extra fluid removed; one of the first points to be noticed is to use Varnish sparingly. All trace of clogging should be removed.

When the surface is gone over the same care should be observed. Hold the article in an upright position, dip the brush lightly into the bottle or pot, ease it on the edge, and apply to the wood. Work with the grain from top to bottom, and, as a rule, go only once over each part. The brush should not be *rubbed into* the wood, nor should it be drawn across the grain; these

methods would produce an uneven and frothy surface.

When the article is laid aside to dry, it must be put out of the way of dust. It should be placed in an upright position.

If the wood be of a very porous nature it will entirely absorb the first coat. In very few cases will a first application suffice, and a second—sometimes a third—is required. This shews the necessity of applying thinly, as two or three coats of thick, heavy Varnish would soon alter the appearance of the article. The first coat must be perfectly dry before a second is put on, and before doing so it is well to rub down lightly with glasspaper. A light rub only is necessary, as it is merely the surface roughness which has to be removed. With the second coat the edges need not be touched unless the grain is so open that all trace of Varnish has disappeared. A high polish is not wanted for the edge, and in any case it is very undesirable to coat it heavily. The brush should go over the surface as before, as little Varnish being used as possible, and due caution being taken not to let it run over the edge.

At Fretwork Stores two kinds of Varnish can usually be purchased—Dark and Light. The former is used chiefly for dark coloured woods, such as Rosewood and Walnut. It intensifies the depth of tone, enriches the colour, and produces a fine gloss. If used for light woods it entirely alters the colour—making it much deeper, and this point must be borne in mind. The Light Varnish is sold expressly for white woods. It certainly does not keep the tint unchanged, but the alteration is comparatively slight, although time tends to increase it. Light Varnish gives a less brilliant polish, and in this way is not suitable for dark and richly coloured woods.

Fretworkers who use Varnish at all should keep a bottle of each tint in their workshops. The cost is trifling—usually sixpence or a shilling per bottle—and both will be found useful.

Before speaking of polishing, a few hints will be given on other methods of finishing Fretwork, such as the use of Shellac, Oiling, Ebonizing, etc., and these will be treated in the following chapter.

(To be continued)

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14	MOTHER'S LAST WORDS	20	Coloured



NOTES OF THE WEEK.

WITH the nearer approach of the various cross-country championship contests the Harriers' Clubs are pulling themselves together in businesslike form, and practice runs are taking place every Saturday, and by some of the more energetic bodies on one or two evenings every week as well.

The National Championship Race is to be held this year in the Birmingham district, but the exact locality has yet to be fixed. It was hoped that the racecourse at Castle Bromwich would have been available, but the committee has been disappointed, so recourse must be had to ordinary open country. In some respects this is preferable, as it seems rather more in accordance with the aims and traditions of the sport that the course used should be genuine and bona fide "country." The enclosed racecourse is better from the financial point of view, as in such a case a "gate" can be secured, and this arrangement also offers conveniences in checking and scoring, and eliminates the risk of a lost trail or any fiasco of that sort. On the whole, however, the attractions of the real cross-country course seem the greater. In most sports there is far too much artificiality, and the more this quality is kept out of the great annual steeplechase contest the better it will be in the long run for that interesting event.

An interesting instance of the fact that a woman develops her full strength at a much earlier age than a man is to be found in reports of the various cycling contests for "lady" riders which have been so popular of late. Two of the riders, one an English girl and the other a French, are but 14 and 15 years of age respectively. Despite their youth these two riders, the latter one especially, are considered as quite at the top of the tree in speed and stamina. Boys of 14 and 15 would be simply nowhere in any athletic contest with full-grown men.

Racing at the Westminster Aquarium is now over for a season, but Olympia is carrying on the running with even greater success. Numerous leading riders have been induced to forsake the amateur ranks to throw in their lot with the money-earning class. This is hardly to be wondered at considering the attractions. Really good men are offered substantial weekly wages, and they have also a good chance of securing some of the valuable prizes that are put up for competition. The latest rumour is that a sum of no less than £1,300 is to be given in money for a six days' cycle race on the new Olympia track. The contest will probably be for not more than two or three hours per diem, and reports state that the winner of this event will secure the very biggest prize on record in the shape of a cheque for £1,000. £200 is to go to second man in, and £100 to third.

If this event really takes place, and if the exceptionally large prize money is to have a real, as well as an advertising existence, then there can be no dispute over the fact that the race will be the most important and exciting ever heard of in the history of the sport. The competitors, it is said, are to be strictly limited in number in order to prevent overcrowding on the small, narrow path, and this is no doubt a most necessary provision. It is quite expected that, should these well-founded rumours prove correct, the amateur path will have to say farewell to more than one of its present prominent supporters.

The new boom in professional cycling is regarded with the greatest satisfaction all round. The big money prizes are expected to relieve the N.C.U. of a good deal of its difficulty by causing many a doubtful amateur to enter the professional ranks of his own accord.

One curious feature about this new racing on the very small indoor tracks is that little men or little women almost always come off the best. Mrs. Grace is a good instance of this, as she is considerably below the average height and weight, and presents a marked contrast to some of her more powerfully-built opponents. The reason for this phenomenon is clearly that the heavier the rider the more effort must he (or she) make at every corner in overcoming the centrifugal force which tends to send him always forward in a straight line. In watching the lady riders, Mrs. Grace's ease in corner taking as compared with women of a more robust build was very marked. It is probable that a heavy, powerfully-built man, no matter how good he might be on a legitimate track of three laps (or so) to the mile, would always find himself at a disadvantage on the small covered courses such as Olympia.

The excitement in the League matches of the Football Association is intensified each week. Probably never was there promise of such a close finish as this season. Aston Villa, Derby County, and Everton are all so near to one another that an extra point gained by either is generally sufficient to take it to the front. At the time of writing Aston Villa just lead, though Derby is possibly the strongest favourite on account of the fact that the "county" has one more match to play than either Everton or Aston Villa.

They have some curious ideas about athletics in the United States. At a Boston meeting not long ago there was a 15 yards handicap, in which the starts were made out in feet and inches. In this country nothing less than the popular 100 is ever seen, neither is any less distance recognised by the A.A.A. Across the water 50 yard races have always been fairly common, but we never heard of anything so short, and shall we say so absurd, as a 15 yards event. Pistol firing should be a fine art if 15 yard races are to flourish.

The *Illustrated Church News* has announced itself strongly in favour of cycling, which it holds to be a powerful influence for both moral and physical good.

The grand roads of France owe their excellence to the fact that they, or rather all the main roads, are under the direct control and supervision of a government department, which does not scruple to lay out considerable sums of money when required for repairs. The result is that the French have the finest roads in Europe. It is hoped that in England the County Councils will eventually be as successful as the French Government has been in providing the best of roads at moderate expense. The County Councils in some districts have done much in this direction already, and will do more. As a rule it costs little, or no more, to keep a road in a high state of efficiency, and with the very best materials, than it does to repair it cheaply (?) with poor and unsuitable stones. In the one case we get a good road for our money, and in the other a bad one. With the continued advance of cycles and carriages built on cycling lines, more attention than ever will have to be paid to the road question.

PRIZE Competitions

SPECIAL NOTE.—In order to allow Fretworkers ample time to make the Victoria Models for our Fretwork Competition, we have decided to receive articles at our office up till March 31st, instead of February 29th as hitherto announced.

WOOD CARVING.

For the best Carved Blotting Book Covers, made from Presentation Design No. 15, we offer Two Prizes:—

First Prize—ONE GUINEA.

Second Prize—SET OF TWELVE SUPERIOR CARVING TOOLS.

The choice of wood and method of carving and finishing are left to Competitors.

Every Competitor must write his or her name clearly on a label which should be pasted to the back of the article.

Articles sent in for Competition will be returned if desired, and for this purpose fully stamped and addressed labels must be enclosed. Blotter cannot be returned unless sufficient stamps are sent.

Articles should be marked "Blotter," and must be received at our office not later than April 30th.

BENT IRON WORK.

For the best BENT IRON WORK GRILLS, made from Presentation Design No. 14, we offer one Prize of a GUINEA, and one Prize of HALF-A-GUINEA.

All matters relating to the actual work, i.e., width of metal, method of fixing, etc., are left entirely to Competitors, and the awards will be given to those examples which show the best general work.

Every Competitor should write his or her name clearly on a label which must be attached to the Grill itself.

All Grills sent in for Competition will be returned if desired, and for this purpose fully stamped and addressed labels must be enclosed. In no case can articles be returned unless sufficient stamps are sent.

Articles should be marked "Grill," and must be received at our Office not later than March 31st.

A COMPETITION FOR EVERYONE.

We will give a Prize of ONE GUINEA for the best, and one of HALF-A-GUINEA for the second best, list of TWELVE HOBBIES suitable for treatment in this paper. The subjects which have already been written upon may be included if the Competitor thinks well to do so.

It must not be forgotten that *Hobbies* is intended to deal with the recreative occupations of ladies as well as with those of the other sex. What we wish every Competitor to do is to make a list of the Twelve Hobbies which he or she may think more interesting and more useful than any others, and arrange them in what may be considered the order of their importance.

The Prizes will be awarded to the lists which we regard as the most suggestive and best calculated to appeal to the interest of the largest number of our readers.

All envelopes should be marked "Suggestions Competition," and must arrive at our office not later than Saturday, February 8th.

FRETWORK.—VICTORIA COMPETITION.

For the best Fretwork Model of a Victoria, made from the Design presented with *Hobbies* No. 10, we offer Two Prizes:—

First Prize—An "IMPERIAL" TREADLE FRET-SAW, with Superior Tilting Table for Inlay Work, Vertical Drilling Attachment, and all Modern Improvements.

Second Prize—A Finely Finished Treadle Fret-saw, with Nicke!-plated Tilting Table, Emery Wheel, etc.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to the Competitor. We would strongly urge, however, that all Articles should be left plain, and that no polish, varnish, stain, or paint of any kind be used.

Every Competitor should write his or her name clearly on a label which must be attached to the Victoria itself.

Articles sent in for Competition will be returned, and in every case it must be stated clearly whether they are to be sent back by post or rail. If by post, sufficient stamps must be enclosed, and these should be affixed to the addressed label. If returnable by rail, the name of the nearest Railway Station must be clearly given.

All Articles sent in for Competition should be marked "Victoria," and must be received at our office not later than March 31st.

PHOTOGRAPHY.

Every month we give a Prize of Ten Shillings for the best Photograph, and Five Shillings for the second best. Subject for this month—Groups, Portraits, or Animals. Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies* if thought desirable. Photographs for this Competition must be sent to our office not later than February 29th, marked "Photograph."

PHOTOGRAPHIC LANTERN SLIDES.

A FIRST PRIZE OF TEN SHILLINGS, and a SECOND PRIZE OF FIVE SHILLINGS will be given for the best Sets of THREE PHOTOGRAPHIC LANTERN SLIDES. Subject for February:— One Landscape, one Seascape, and one Architectural Slide.

Slides will be returned if fully stamped and addressed labels are sent.

Mark "Slides," and send to our Office not later than February 29th.

NOTICE TO COMPETITORS.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.

"HOBBIES" CALENDAR DESIGN.

So many readers have applied for the small Mirror for the Design of a Fretwork Calendar that our supply was exhausted within a few days. As these Mirrors have to be specially made it will probably be a day or two before we receive a further consignment. Under these circumstances, the delay in executing orders will, we are sure, be excused. The Cards for the Calendar can, of course, be sent at once.



PHOTOGRAPHY

for Amateurs

NOTES OF THE WEEK.

THE following few words of advice spoken at a meeting of Photographers may well be laid to heart:—"A Photographer should know more than merely how to handle his tools, and how to produce a technically perfect negative and get any required effect by modification of chemical treatment. Real pictures can be and have been produced by Photography—pictures which are real works of art, and which possess a marked individuality."

There is some talk of holding a Photographic Apparatus Exhibition in London during the coming summer. Latterly the trade have looked askance at such Exhibitions. We believe that, run upon popular lines, it might be a great success. Certainly, the spring or early summer is the right time, when people are buying new apparatus, &c.

At the last International Photographic Exhibition, held at Hamburg, there were 6,000 Photographs shown, coming from all parts of Europe. Great Britain does not appear to have been largely represented.

We have before us a very useful little book, "The Lantern and How to Use it,"* by Mr. C. Goodwin Norton. This gentleman is a thoroughly practical Lanternist, and has been engaged in making Lanterns and accessories for some years. We cordially recommend the book to readers of *Hobbies*.

A contributor to the "Magic Lantern Journal" writes a good article upon "Cleanliness and Care in Lantern Matters." He says, with reference to the using of bad or improper limes:—"Exactly where the stream of gas strikes the lime, a pit quickly becomes worn, from which the flame rebounds as the pit deepens, especially if hydrogen is slightly in excess. If a point of flame touches the condenser, an immediate fracture is the result. A lime should be turned every minute or two, according to its degree of hardness, but only far enough to present a new surface to the stream of gas, so that when finished, the lime is covered with rows of pits close together. Make a rule of always turning a lime the same way, and stick to it, as the greatest danger lies in turning indiscriminately backwards and forwards, for if an old pit were to be brought again into position, the result would, most likely, be disastrous. Always begin either with a lime down as far as it will go,

and raise slightly each time, or at its highest position, and gradually lower it. A crack or crevice in the lime will often have the same effect as a pit as regards deflecting the flame, and although a single straight crack in a lime may easily be dodged, when numerous the best course is to substitute a fresh lime at the earliest opportunity. There is no certainty that a given lime will not crack while in use, but much risk may be removed by warming the lime very gradually.

To attach labels to glass:—Dissolve one-half drachm of sulphate of alumina in 6 drachms of water, and then mix this solution with $3\frac{1}{2}$ ounces of a strong solution of gum arabic mucilage.

We note that at the Royal Photographic Society's Exhibition there was a considerable advance in prints by both platinotype and carbon process, as the following table will show:—

	1894.		1895.
Platinotype ...	175	..	185
Carbon ...	88	...	110
Bromide ...	57	...	26
Gelatino-Chloride ...	48	...	41
Photogravure ...	15	...	22

It will be noticed that both bromide and gelatino chloride prints show a falling, and that the more difficult processes platinotype, carbon and photogravure show most healthy advance.

On the same subject a writer in one of the Scottish Dailies recently said:—"The time is certainly coming when silver prints will never be seen at exhibitions of first-class Photography, and it will be particularly satisfactory if this be brought about by a natural process of the survival of the fittest. Then such a disgrace to Photography, and especially to the exhibition where it has occurred, as a Photograph obviously fading during the brief period that it hangs in the gallery, will be an impossibility. Then the purchasers of Photographic pictures will learn that they may with safety spend money in buying any exhibits that they may fancy, and one of the reasons why it is now desirable to state the printing process used will have disappeared."

Mr. H. Foster Newey, of the Birmingham Municipal School of Art, writing upon Pictorial Composition, and particularly upon proportions and shapes of pictures—in the "Photographic News," says:—"Photographic plates are made of rectangular form and of certain definite proportions of height to width. They may, of course, be used with the greatest measurement

* London: Hazell, Watson, & Viney, Limited, 1, Creed Lane, E.C. 1s.

placed either upright or horizontal. It is the custom to consider," says Mr. Newey, "when looking through the ground glass at a subject, that this proportion must be strictly adhered to, with the occasional variety obtained by placing the plate either, as before mentioned, upright or horizontal. A painter gives this matter due consideration, and makes the proportions of his canvas fit his subject. So should it be in Photography, for the first thing to learn in composition is, that a certain subject will look its best with a certain amount of sky and foreground, and with its depth in certain proportion to its width. This may be a different shape to the Photographic plate, and we must remember that it is possible to cut a print down, but quite impossible to add either sky or foreground."

From a considerable experience in the examination of Photographic pictures, we have come to the conclusion that the proper proportions of foreground to the subject is the chief fault to be laid to the door of the average worker in Photography. As a rule he or she is in too great a hurry to get what they call "the picture" on the plate, and the pictorial composition of the picture within the limits of the field of the plate is mainly left to chance. The ordinary half-plate does not lend itself to composition. The proportions are not pictorial and this is the reason for such frequent excess of sky and foreground, but the print can be cut down, and oftentimes with great advantage to the subject. Still that operation cannot be called composition. We counsel Amateur Photographers, as we have before done in this column, to use the plate measuring $7\frac{1}{2} \times 5$; or if working with a half-plate to use the stereoscopic plate size, fitting a carrier to their dark slides for that purpose, and a mask to the focussing screen. This size gives the most pictorial landscape or seascape picture "horizontally." It is of course, except on rare occasions, quite out of proportion for upright pictures.

A member of the Croydon Camera Club has succeeded in making satisfactory prints on gelatino-chloride paper by the aid of the incandescent gas burner. Using an A.C. burner good prints were obtained in two hours.

This is what can be done with a Lantern Slide Exchange. The American Lantern Slide Exchange has been well supported. The Slides submitted for the seasons, sets to be put into circulation, were 1,700, and from these 1,000 Slides were selected. These, with the three foreign sets in circulation, are sufficient to give a set of Slides to each club belonging to the Exchange once a month, for ten months in the year. The only work of the kind that has been done here has been through the Photographic Journals gratuitously. Neither the Slides or the promoters have always received the consideration they deserved at the hands of the Officers of Photographic Societies.

A writer upon Photography has delivered the following judgment upon "groups."—"It may be safely laid down as a rule that any group comprising more than ten or twelve figures is, by the condition of its handling, entirely outside the domain of art; and any attempt to treat it as though it were within that range must end in disappointment."

'Hobbies' Designs.



OWING to the very heavy expense involved in the production of the Designs forming our Weekly Presentation Supplements, we cannot supply these with back numbers of *Hobbies*. Copies of them may, however, be obtained on sending *threepence* for each Design required to the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

For the convenience of our readers we give below a complete list of the Designs already published.



NO. 9. CARVED LAMP BRACKET.

1. Midget Photo Frame, with Overlay Ornament.
2. "Aphrodite" Mirror Bracket.
3. Bent Iron Work Gong Stand.
4. Hanging Twine Box, with Overlay Ornament.
5. "Card" Inkstand.
6. Carved Adams Frame.
7. "Gasalier" Bracket.
8. Bent Iron Work Table Stand, for Cards, etc.
9. Carved Lamp Bracket.
10. Model of a Victoria.
11. "Toilet Glass" Cabinet Photo Frame.
12. "Swing-Boat" Match Holder.
13. Hanging Fretwork Calendar.
14. Bent Iron Work Grill Panel.
15. Carved Blotting Book Cover.
16. Prize Card Receiver.

The following Designs are in preparation—

17. Panel with Overlaid Ornaments.
18. Bookshelves.

NOTE.—The Patterns not otherwise designated are Fretwork.



* * All communications to be answered in these columns should be marked "Correspondence," and must be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. In no case can we reply to enquiries by post.

BENT IRON WORK.

W. WIMBLEDON.—Such an alteration on the Grill Panel as you suggest would, we fear, make it ineligible for Competition.

J. R. JONES.—We are preparing a working drawing of a Corner Cupboard, suitable for holding the Grill presented with *Hobbies* No. 14, and hope to have it published in a few weeks.

ELECTRICITY.

A. J. COLLINGBOURNE.—We have an article promised on Shocking Coils.

FLORENCE MITOLAY.—It is very difficult to say, but we might suggest about 5/- each. We note your suggestion for a design.

J. K. FOSTER.—Read the Electrical Article in No. 4. We may afterwards deal in detail with the Galvanometer. *Hobbies* No. 8 is out of print.

NORTON.—There are no books published on Medical Electricity, but you would find descriptions of the various instruments employed in Cassell's *Electricity in the Service of Man*, which may be seen at most public libraries.

A. R. THOMAS.—We cannot see why your three Leclanche cells should not light a 2 c. p. lamp. Are the connections all right? The stuff that looks like "dirty crystallized sugar" is sal-ammoniac. The cells can be turned into single fluids, but are scarcely worth the trouble.

VINE.—It is possible to connect a telephone to an existing bell line and still allow the bells to work. We should advise you to wait until you have read our article on Telephones, which will shortly appear, before commencing operations. Buy *Electro Motors* by Bottone, price 8/-

W.—T. Kew, Cottage Grove, Southsea, is a specialist for small power lamps; cost from 1/6 each. Messrs. King, Mendham, & Co., Bristol, and most other Electricians sell all the other articles; cost—lampholders 8d. each, suitable battery 12/- to 15/6, wire 4/6 per 110 yards. You can calculate the total from these data according to the number of lamps.

C. J. MCKENZIE.—(1) We cannot explain Electrical Experiments in this column. (2) Lead foil must be used in your Pocket accumulator, or, if you cannot obtain it, merely filling the holes in the plates with the oxides will do. (3) Small dry pocket batteries are not suitable for lighting purposes. You can make the accumulator smaller. See reply to "E. J. F.," in *Hobbies* No. 12.

LUGLOW.—The price you mention is a trifle high. If you particularly wish to polish the bobbin, your best plan will be to get it done by a French polisher, as the process is rather a difficult one, and too long to describe here. You have rather complicated matters by applying black varnish, but if the flanges are thick enough a wood turner could put the bobbin in the lathe again, and just shave it off. Why not leave it as it is? Do not omit to shellac varnish the winding space as directed.

FRETWORK, CARVING, &c.

A. FÆTH.—Try Harger Bros. of Settle, but $\frac{1}{8}$ inch Xylonite will be very expensive, and also hard to out.

E. A. PALMER.—In our Fretwork and Carving Articles we shall give some suggestions as to stains, etc.

GORTONIAN.—Try French Polish. Read our Articles on Varnishing and Polishing which begin in this week's *Hobbies*.

J. W. YOUNG.—The Britannia Company, Colchester, supply the "Windsor" Fretsaw we believe. The saw clamps of the "Roger" will suit your machine.

W. M.—See our Fretwork Article for this week. We do not think that varnish would spoil your clock case; apply it sparingly, and do not give more than two coats.

W. S. N.—Spanish Chestnut, Canary, or Ash might suit you. They can usually be had up to 18 or 20 inches in width. The price, we fancy, would be about 8d. or 4d. per square foot.

W. MOXON.—You have mis-read our instructions. With the Swing Boat Match Holder we say clearly that the Spindle should be fixed to the *Supports*, otherwise the article would not be strong.

G. B. E.—The best book we can recommend you is *Home Carpentry for Handy Men*, published by Ward, Lock and Bowden. The price is 7/6, but with the usual discount off you can buy it for 6/8. Any bookseller will get it for you.

JUNIOR MED.—As we have said before, the sawing attachment of the "Companion" Lathe and Fretsaw can be fixed on a Treadle Sewing Machine. We question, however, if you will find the plan more economical than buying a ready-made Treadle Fretsaw. Why not try a "Roger"? It is the best cheap machine which can be purchased.

PHOTOGRAPHY AND LANTERNS.

B. B.—What size of lantern do you propose to make? Let us know and we will try and help you.

S. S. BOSWORTH.—We should advise "Little Nell," Dickens' story. This is always popular, and lends itself to good accompaniment. The slides may be hired from any good firm.

CONSTANT READER.—We cannot tell you in this column "How to make a half plate Camera," but will probably have an article upon the subject later on. If you write Messrs. Lonsdale Bros., 22, Goswell Road, E.C., they may be able to give you some information.

JOHN R. TRUMBLE.—If the lens is a single lens you might use it, but be careful to arrange the proper focal length. It would be best to buy a small single lens of 4½ or 5 inch focus, which would be most suitable for the purpose. When using "Ilford" plates it is advisable to use the maker's formulae.

ROB ROY.—If the lantern you have has a single wick lamp, it should have a chimney. The lens usually supplied is of the single type, and the disc, though small, should be fairly illuminated. Possibly the lamp is not in right position. Keep everything scrupulously clean. In due course we shall deal with painting lantern slides.

FOR Sale, and Exchange.

*. The charges for advertisements (prepaid) in this page will be sixpence for every twelve words or less, name and address inclusive, and one halfpenny for every additional word. Single letters, initials and figures are each counted as a word; but undivided numbers (as 152), and prices (as 10s. 6d.) count as only one word each. In every case the name and address of the advertiser must be given for publication, and we cannot at present undertake to supply a private name or number and receive replies to advertisements at our office. All advertisements must be accompanied by remittances, otherwise they cannot be inserted. Whenever possible, payment should be made in Postal Orders, and not stamps. Letters should be marked "Advt." and must be addressed to the Publisher, *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

NOTE.—Trade Advertisements can only be inserted in this page at the rate of one shilling per line.

Acme Electric Bell Set, comprising 2½ in. Electric Bell, Quart Leclanche Battery, Push, 50 feet Wire, Staples, Instructions, 4/6; better value impossible.—Electric, Lord Street, Openshaw, Manchester. E. 2.

Album containing 700 English and Foreign Stamps, 25/-, or offers.—H. Garratt, Chatteris.

Canaries.—4 Yellow, 4 Buff Yorkshire Cocks, 4 Buff Hens, 4/- each, carriage free.—Joe Smith, 13, Miltham Road, Lockwood, Huddersfield.

Dulcimer.—(Large), 4 strings, each note beautifully inlaid, good condition and tone, easily learnt; Instruction Book complete, 38/- Foster, Rutland Road, Bedford.

Dynamo.—About 20 candle power, good condition, price 25/- Terry, 39, Roman Road, Bow.

Electro Motors (very powerful with one battery), all parts complete including wire. Post free, 1/4. Battery 9d. extra.—Fowler, 202, Victoria Park Road, Hackney.

"Electricity." One Penny weekly; practical, chatty, and interesting. Should be read by everyone interested in the science. Order it from your newsagent. D. 2.

Electrical Hobbies.—Write for New Enlarged List; will just suit you; prices low; best quality.—Electric, Lord Street, Openshaw, Manchester. E. 2.

Films for tracing Lantern Slides, 4½d. per dozen.—Photo'r, 11, Bothwell Street, Glasgow. B. 3.

Foreign Stamps.—Sheets sent on approval.—Phoenix Stamp Company, 31, Radnor Street, Peckham.

For Sale, splendid Rosewood Zither, in case, best make, cost £5, 32 silk and gut strings, beautiful tone. Having no further use for it will sell 40/-, with Instructor and Tune Book.—Arthur Powell, Freeman Street, Grimsby.

Free.—20 different United States, free to all applicants for sheets enclosing postage. 100 different stamps, 5d.; 100 superior, 1/1.—Rhodes, Rammas House, Otley. B. 1.

Fretwoods, ½ inch American Canary, 3½d. per foot; Teak, Mahogany, 4½d.—T. Carter, Lichfield. H. 5.

Fretwork, Carving.—Lists 48-56, 1d. "The Amateur," volumes I. to V., 1/- per volume.—Henry Zilles & Co., Importers of German Designs, Wilson Street, Finsbury, London, E.C.

Fretwork Patterns.—The "Challenge" Book of Fret Designs, containing 20 entirely new patterns for pretty and elegant Brackets, Watch Stands, Pipe Racks, Photo Frames, etc., etc., 1/-, post free. Send at once. Satisfaction guaranteed.—R. Padley, 690, Brightside Lane, Sheffield.

Fretworkers' Central Depot.—All Harger's and Skinner's goods supplied. This week only all Harger's Patterns reduced 25 per cent. to 50 per cent.—Screws, 4½d. gross, ½ to ½ inch only.—Lund, Cycle Agent, Bradford.

Great Electrical Sale.—Exceptional Bargains. Write at once. Lists, 1d. stamp.—T. Greaves, 19, Kerbey Street, Poplar, E. B. 1.

High Class Tools.—For New Illustrated Price List, send 3d. to Osborn Brothers, Tool Merchants, 38, Frattin Street, Portsmouth. M. 11.

How to learn and start a light artistic business that will produce a living without previous knowledge on the small capital of one pound. Complete instructions, post free, 12 stamps.—James, 11, Stanbury Road, Peckham, S.E. C. 2.

How to make an Electric Night Light that will work well for years without attention, post free, 6 stamps; also how to attach an electric alarm to clock, 6 stamps.—James, 11, Stanbury Road, Peckham, S.E. C. 1.

Lincoln Stamp Album, containing 424 different stamps, with coloured maps and catalogue. What offers?—Harry George, Ashlea, Banff.

New Book of Instructions in gilding, graining, mixing paint, French polishing, picture-frame making, mount cutting, etc., 1,000 valuable recipes, free, 1/2.—McQuhae, Cockermouth, and all Booksellers. L. 5.

Stamps.—Gratis, Japanese Silver Wedding, 2 sen., to all applicants for my well-selected approval sheets.—John Davey, Messing, Kelvedon.

Stamps.—Edward W. Drury, Westholme, Hessle, East Yorks, wishes to buy collection containing old issues, good price paid; also duplicates for sale. Book containing large selection, priced cheaply, can be sent on approval to responsible applicants. C. 2.

Stamps.—Oriental, very rare Greece, 1 drachma; scarce Russian Levant, 10 kopeks; six Turkish, ten Roumania, four obsolete Bulgaria, Montenegro; 30 excellent genuine varieties Oriental only; 1s. 1d. Smith, Arthur Road, Kingston, Surrey. C. 3.

Thousands of Stamp Mounts to be given away, absolutely free of charge; send for particulars.—Illingworth, 6, Marine Terrace, Morecambe.

Westminster Clock Tower Model, 12/, or exchange for any Electrical Apparatus.—R. Pearson, Stanley Road, Blackpool.

100 Stamps, 40 varieties, 1/1; all different; 3 Perak, tiger, 6d.; 5 Greece, obsolete, 5d.; 18 France, 6d.; 10 United States, 5d. Cheap approval sheets.—Terry, 6, Welbeck Road, Birkdale, Lancs.

300 Stamps, all different, some good varieties, post free, 3/.—F. Sweet, Over Wallop, Stockbridge.

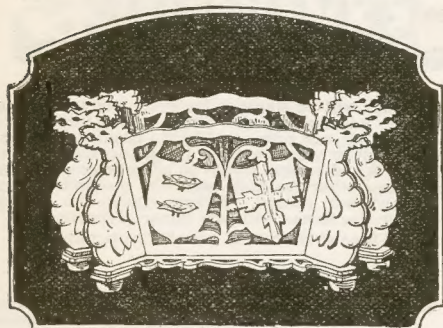
3 Pairs of Tumblers, 6/- pair; 1 pair Owls, 6/6; 2 pairs Homers, 10/6 pair, winners, and bred from winners.—John Daykin, Woodhouse, Sheffield.

12 Lovely Artistic Stencil Designs, full size, 1/- Fuller, 94, Stebongdale Street, Poplar, London. B. 2.

*. As we are obliged to go to press about ten days before the nominal date of publication, Advertisements must be received at our Office on Wednesday morning to ensure insertion in the following week's issue.

Weekly Presentation Design.

No. 16. FRETWORK CARD RECEIVER.

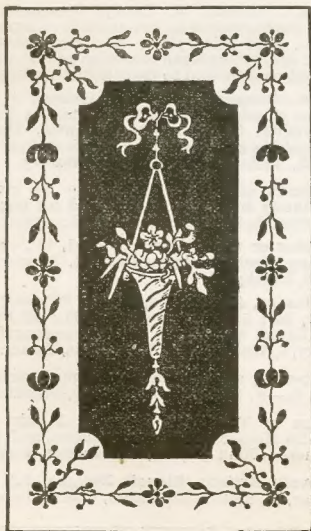


THE Pattern which we present with this week's *Hobbies* is the Card Receiver, by Mr. Henry S. Crawford, 11, Kenilworth Square, Dublin, which was awarded the First Prize in our recent Fretwork Design Competition.

The wood used should be one-eight inch thick, veneers of about one-sixteenth inch being taken for the overlay slips.

[Additional copies of this Design may be had, price 3d. each, on application to the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.]

No. 17.—PANEL, WITH OVERLAY ORNAMENTS.



The above sketch is a miniature of the full-sized Design for a Panel with Overlay Ornaments, which will be given away with each copy of next week's issue of *Hobbies*.

Photographic Hints for Amateurs.

WHITE INK.

To make White Ink a mucilage of Gum Acacia is prepared, and with this is mixed Zinc White in sufficient quantity. In order to make the Ink smooth, after mixing the Zinc White, the whole is well rubbed with a palette knife upon a slab of glass. A few drops of Carbolic Acid may be added as a preservative.

RETOUCHING MEDIUM.

In making up the following recipe it is important to get a good quality of turpentine, so that when the mixture is rubbed upon the negative the turpentine will evaporate and leave the gum set firmly on the film.

Resin	...	360 grains
Gum Dammar	70	„
Spirits of Turpentine	4	ozs.

SUBSTITUTE FOR DISTILLED WATER.

Fill a clean glass bottle with well or tap water, add a few centigrammes of Acetate of Silver, just enough to render the water opalescent. When the Salt of Silver is perfectly dissolved, expose the bottle to the light until a blackish precipitate forms on the bottom. Decant the clear water, being careful not to disturb the precipitate, and the water, though not actually distilled, will be as good for all practical purposes.

CARRYING A CAMERA.

Captain Abney was recently asked: "How should the camera be carried?" and said:—"The first desideratum is that the camera shall be easily accessible, and for that reason we think it a mistake to put the case inside another case. If the camera be the tourist size, $7\frac{1}{2}$ by 5 inches, the case may be made so that it takes the camera and slides butting on one another, and thus have a rectangular shape and not deep. It is then very easy to sew straps knapsack fashion on to it, and if properly done the case will then be just on a line with the bottom of the neck, and the other end rest on the loins. A couple of straps at the upper end of the case will allow the legs to be carried so as to project but little beyond the leather case."

DEFECTS IN SKIES ON LANTERN SLIDES.

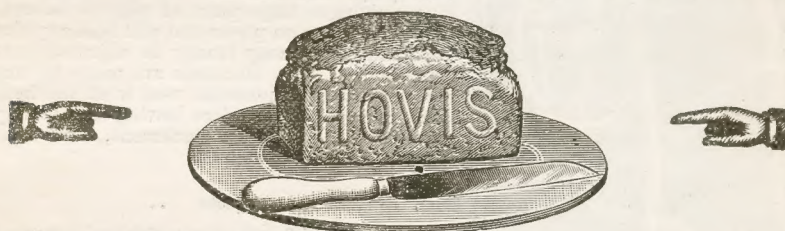
During the exposure the sky should be partly shaded with the fingers closed together, moving the hand slightly. After developing and fixing, the Slide is passed through or dipped into water to remove the Hypo solution from the surface, without any attempt at washing, then holding the sky part downward, dip a tuft of absorbent cotton, or wool, into a 1 per cent. solution of red prussiate of potash. Commence at the lower edge and carefully work over the surface of the sky and around the buildings and trees, then rapidly pass the cotton over the entire surface of the slide; quickly immerse in water to stop the action, and wash thoroughly. Should the negative possess a clean, even sky, do not clean it off; a clean, even tint to the sky is far better than clear glass.

Highest Award at Food and Cookery Exhibition,
LONDON, MAY, 1895.



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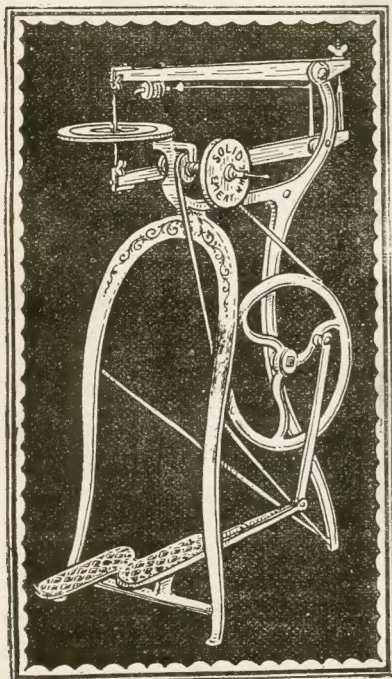
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The COMPANION LATHE and FRETSAW, with Tools complete	...	£1 18 0
The GOODELL LATHE and FRETSAW, with Tools complete	...	£2 14 0

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Printed and Published at the Office of “HOBBIES,” Bouverie House, Salisbury Square, London, E.C.
Sole Advertisement Agents,—JOHN HADDON & Co., Bouverie House, Salisbury Square, London, E.C.